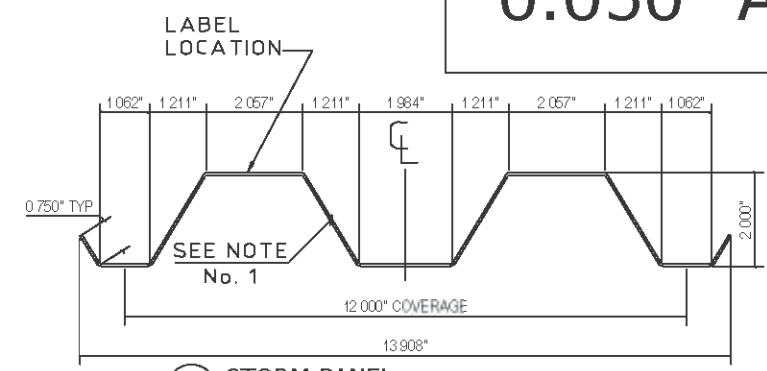


0.050" ALUMINUM STORM PANELS (VERSION 2)

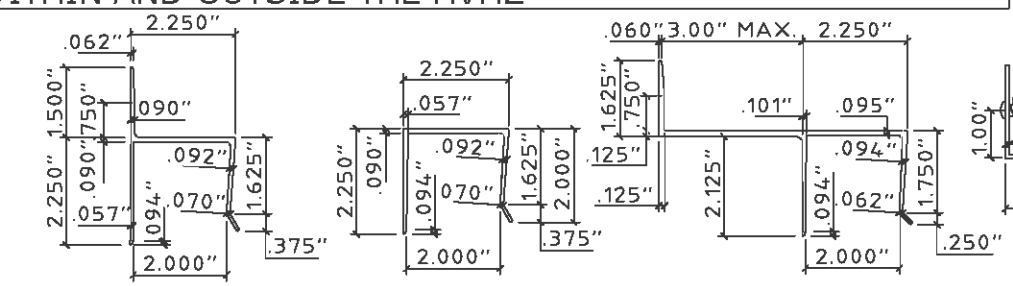
FOR USE WITHIN AND OUTSIDE THE HVHZ

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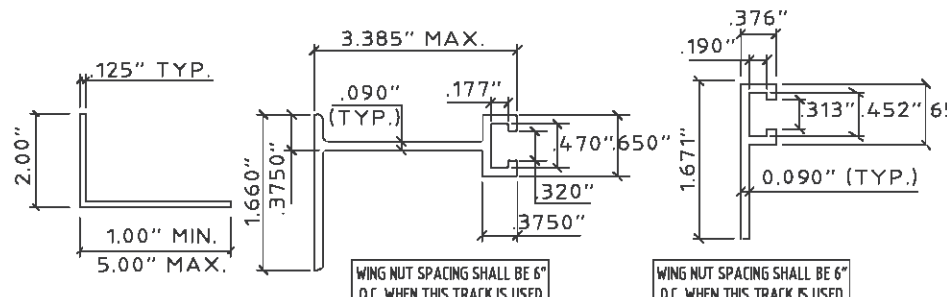
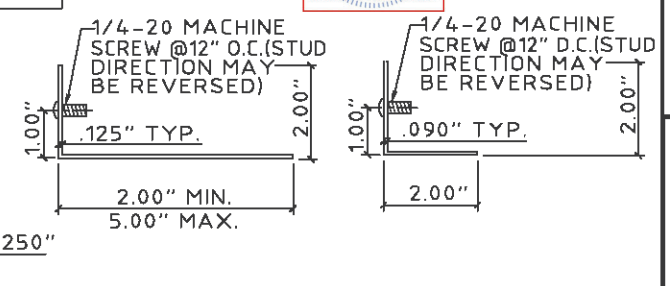
Digitally signed by Frank Bernardo, PE
Date: 2020.10.09
13:30:17 -04'00'



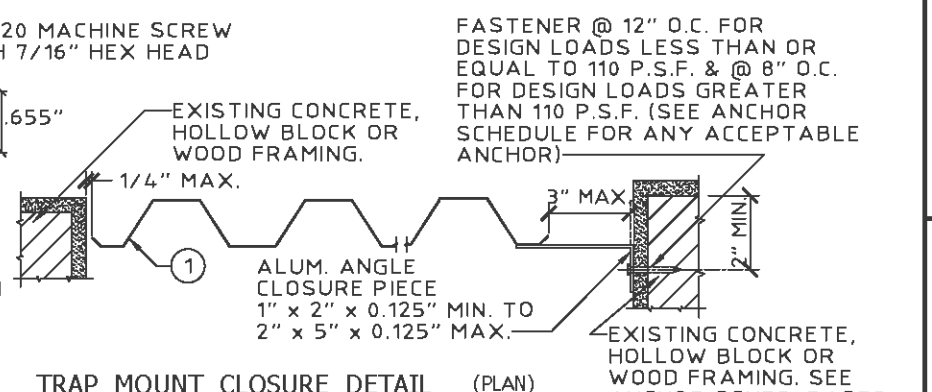
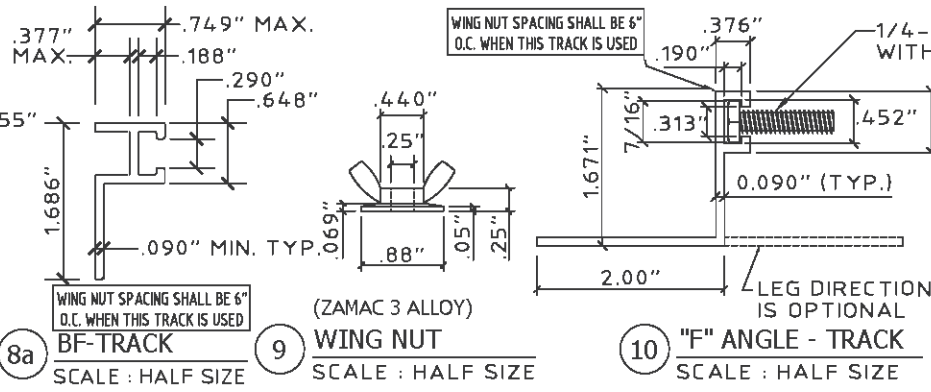
1 STORM PANEL
SCALE: 3" = 1'-0"



2 "h" HEADER SCALE: 3" = 1'-0"
3 "U" HEADER SCALE: 3" = 1'-0"
3a BUILD-OUT "U" HEADER
4 STUD ANGLE SCALE: 3" = 1'-0"
5 STUD ANGLE SCALE: 3" = 1'-0"



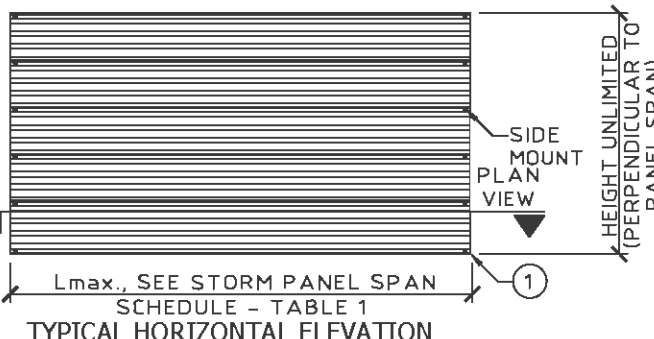
6 ANGLE SCALE: 3" = 1'-0"
7 BUILD-OUT F-TRACK SCALE: HALF SIZE
8 "F" TRACK SCALE: HALF SIZE
8a BF-TRACK SCALE: HALF SIZE
9 WING NUT SCALE: HALF SIZE
10 "F" ANGLE - TRACK SCALE: HALF SIZE



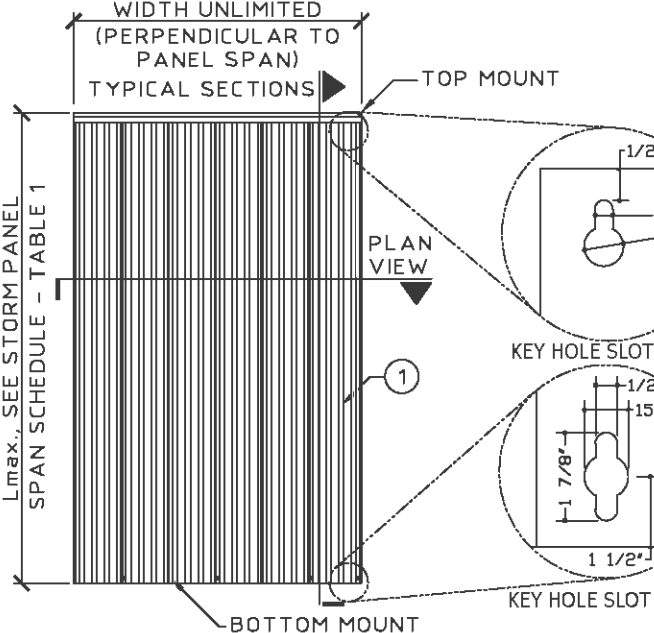
11 TRAP MOUNT CLOSURE DETAIL (PLAN)
SCALE: 1-1/2" = 1'-0"

GENERAL NOTES:

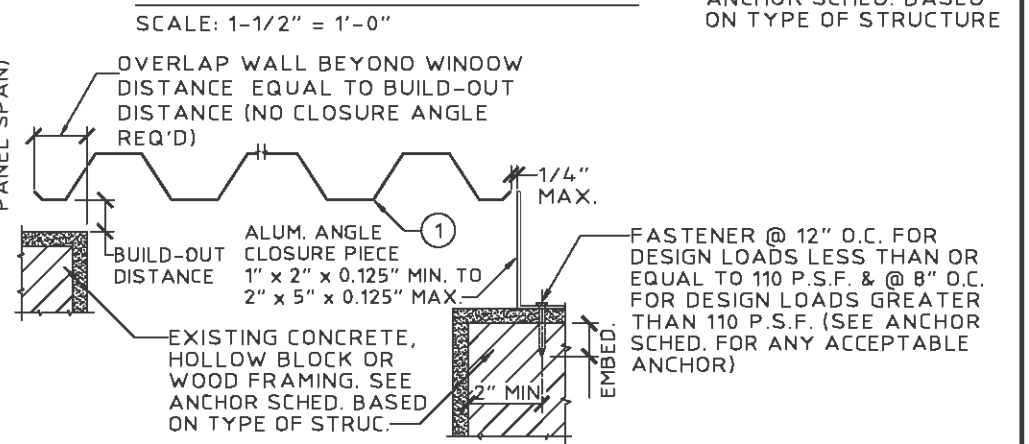
1. THE SYSTEM DESCRIBED HEREIN HAS BEEN DESIGNED AND TESTED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE SEVENTH EDITION (2020) FOR USE WITHIN AND OUTSIDE THE HIGH VELOCITY HURRICANE ZONE. SEE PRODUCT EVALUATION REPORT FOR MORE INFORMATION.
2. NO 33-1/3% INCREASE IN ALLOWABLE STRESS HAS BEEN USED IN THE DESIGN OF THIS SYSTEM. WIND LOAD DURATION FACTOR $C_d=1.6$ HAS BEEN USED FOR WOOD ANCHOR DESIGN.
3. POSITIVE AND NEGATIVE DESIGN PRESSURES CALCULATED FOR USE WITH THIS SYSTEM SHALL BE DETERMINED PER SEPARATE ENGINEERING IN ACCORDANCE WITH THE GOVERNING CODE. PRESSURE REQUIREMENTS AS DETERMINED IN ACCORDANCE WITH ASCE 7 AND CHAPTER 1609 OF THE FLORIDA BUILDING CODE SIXTH EDITION (2017) SHALL BE LESS THAN OR EQUAL TO THE POSITIVE OR NEGATIVE DESIGN PRESSURE CAPACITY VALUES LISTED HEREIN FOR ANY ASSEMBLY AS SHOWN.
4. INSTALLATIONS SHALL NOT EXCEED THE MAXIMUM ALLOWABLE STRESS DESIGN (ASD) DESIGN RATINGS AND MAXIMUM SPAN LIMITS. ULTIMATE DESIGN WIND LOADS DETERMINED BY THE FBC AND ASCE 7 SHALL BE REDUCED TO ASD BY MULTIPLYING BY 0.6 (SEE FBC SECTION 1609).
5. DESIGN PRESSURES NOTED HEREIN ARE BASED ON MAXIMUM TESTED PRESSURES DIVIDED BY A 1.5 SAFETY FACTOR.
6. THE SYSTEM DETAILED HEREIN IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SPECIFIC SITE. FOR SITE CONDITIONS DIFFERENT FROM THE CONDITIONS DETAILED HEREIN, A LICENSED ENGINEER OR REGISTERED ARCHITECT SHALL PREPARE SITE SPECIFIC DOCUMENTS FOR USE IN CONJUNCTION WITH THIS DOCUMENT.
7. THESE INSTALLATION INSTRUCTIONS ARE PART OF A PRODUCT APPROVAL EVALUATION AND SHALL ONLY BE USED IN CONJUNCTION WITH THE EVALUATION REPORT SUBMITTED FOR THE SAME PRODUCT APPROVAL. USE OF THESE APPROVAL DOCUMENTS SHALL COMPLY WITH CHAPTER 61G20-3.005 OF THE FLORIDA ADMINISTRATIVE CODE.
8. PERMIT HOLDER SHALL VERIFY THE ADEQUACY OF THE EXISTING STRUCTURE TO WITHSTAND SUPERIMPOSED LOADS. BRICK VENEER PER ASTM C62 (BY OTHERS) SHALL BE ANCHORED PROPERLY TO TRANSFER ANY APPLICABLE LOADS TO THE EXISTING HOST STRUCTURE.
9. STORM PANELS SHALL BE $t=0.050$ " MINIMUM AND SHALL HAVE $F_u = 35.9$ KSI MINIMUM AND $F_y = 26.8$ KSI MINIMUM.
10. ALL EXTRUSIONS SHALL BE 6063-T6 ALUMINUM ALLOY, UNLESS NOTED OTHERWISE. ALL TOLERANCES SHALL BE IN ACCORDANCE WITH ADM 2015.
11. TOP & BOTTOM DETAILS SHOWN MAY BE INTERCHANGED AS FIELD CONDITIONS DICTATE. PANELS MAY BE MOUNTED VERTICALLY OR HORIZONTALLY AS APPLICABLE.
12. PANELS SHALL BE PERMANENTLY LABELED WITH LABELS SPACED NOT MORE THAN EVERY THREE LINEAL FEET PER PANEL AND SHALL FACE THE EXTERIOR AND CONTAIN AT LEAST THE FOLLOWING:
ATLANTIC SHUTTERS, INC.
NORTH MIAMI BEACH, FL
TAS 201, 202, & 203
FL29637
13. ALL BOLTS & WASHERS SHALL BE ZINC COATED STEEL, GALVANIZED STEEL, STAINLESS STEEL, OR 2024-T6 ALUMINUM ALLOY WITH A MINIMUM TENSILE YIELD STRENGTH OF 33 KSI, UNLESS OTHERWISE NOTED HEREIN.
14. CONTRACTOR IS RESPONSIBLE TO INSULATE OR PROTECT ALL MEMBERS FROM DISSIMILAR MATERIALS TO PREVENT ELECTROLYSIS.



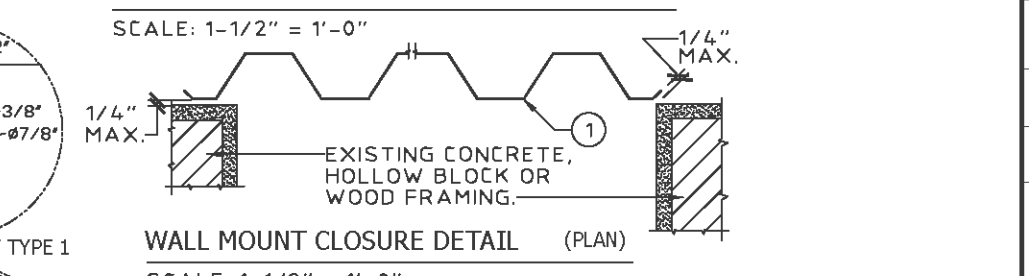
12 TYPICAL HORIZONTAL ELEVATION
SCALE: 1/4" = 1'-0"



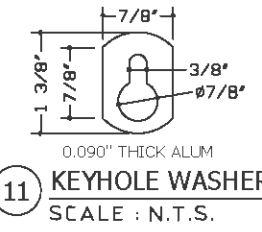
13 TYPICAL VERTICAL ELEVATION
SCALE: 1/4" = 1'-0"



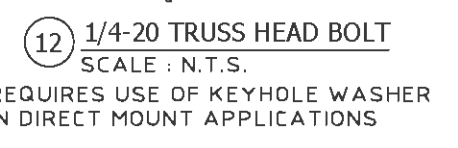
14 BUILD-OUT MOUNT CLOSURE DETAIL (PLAN)
SCALE: 1-1/2" = 1'-0"



15 WALL MOUNT CLOSURE DETAIL (PLAN)
SCALE: 1-1/2" = 1'-0"



16 KEYHOLE WASHER
SCALE: N.T.S.



17 1/4-20 TRUSS HEAD BOLT
SCALE: N.T.S.
REQUIRES USE OF KEYHOLE WASHER IN DIRECT MOUNT APPLICATIONS

NOTE: TOP MAY BE SLOPED OR RADIUS TO MATCH GEOMETRY OF OPENING. MOUNTING HARDWARE MUST BE ROLL-FORMED TO THE RADIUS; NO NOTCHING OF MOUNTING HARDWARE TO ACHIEVE SHAPES IS ALLOWED.

ENGINEERING EXPRESS
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ATLANTIC SHUTTERS, INC.
1970 NE 153RD ST. BAY 6
NORTH MIAMI BEACH, FL 33162
PHONE: (305) 945-7277 FAX: (305) 945-1131
0.050" ALUMINUM STORM PANELS (VERSION 2)
FOR USE WITHIN AND OUTSIDE THE HVHZ
FL29637.1

DRWN	CHKD	DATE
FWN	FLB	07/20/19
CCB	RWN	02/26/20

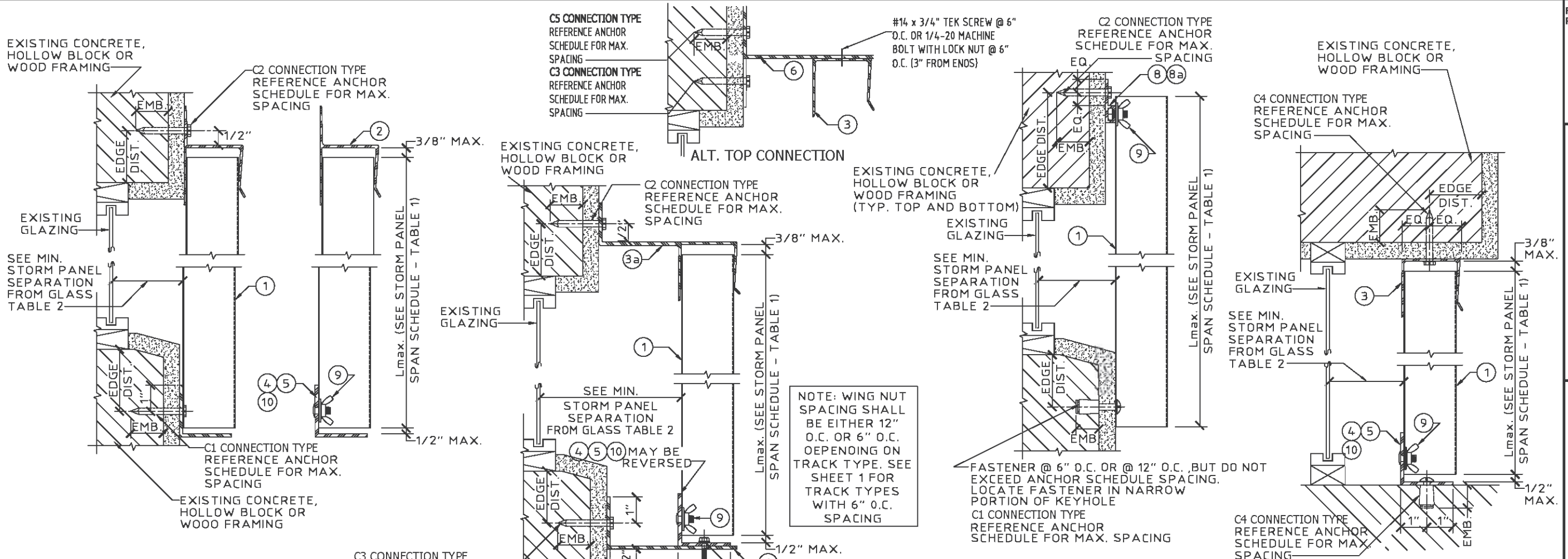
REMARKS
INITIALS
2020 FBC

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20-31020
SCALE: N.T.S./U.N.O.
1

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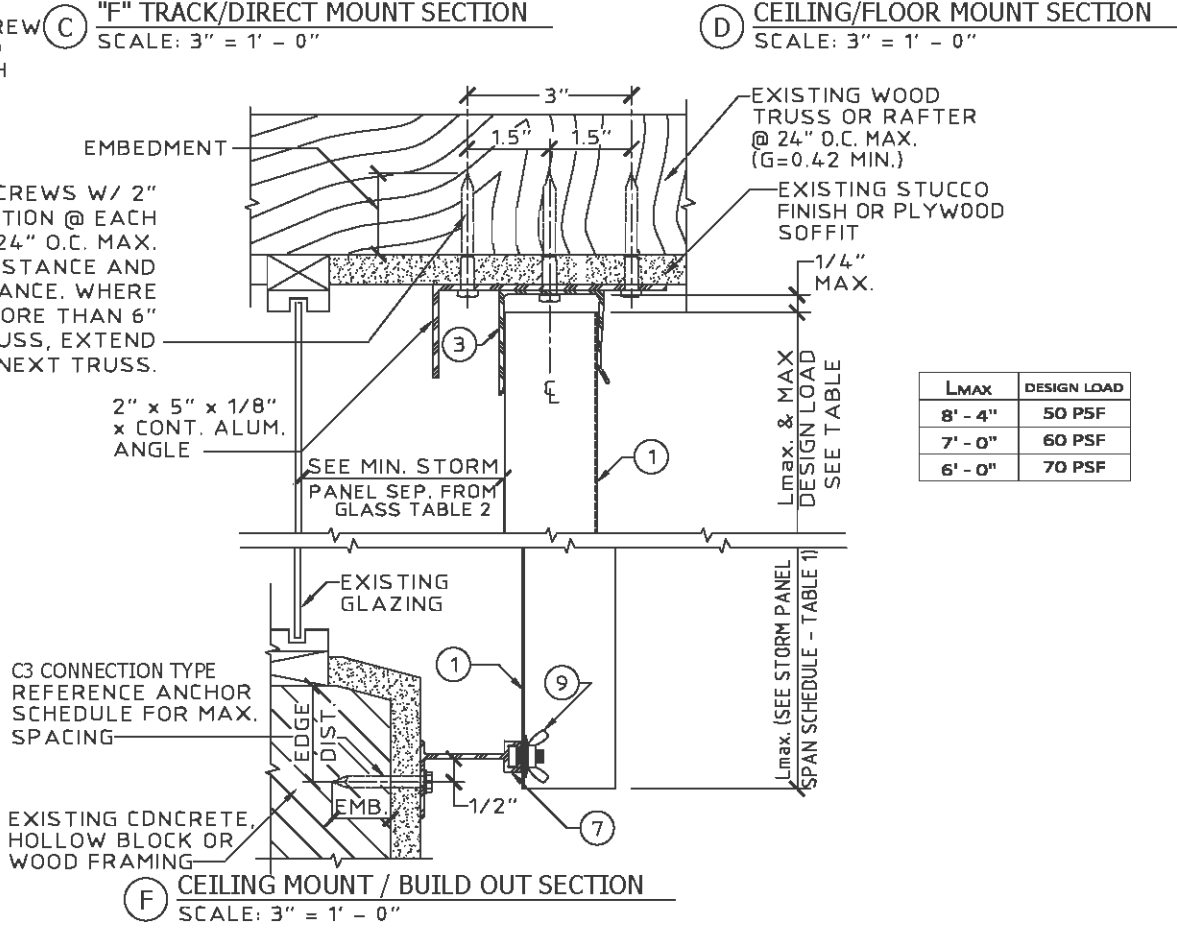
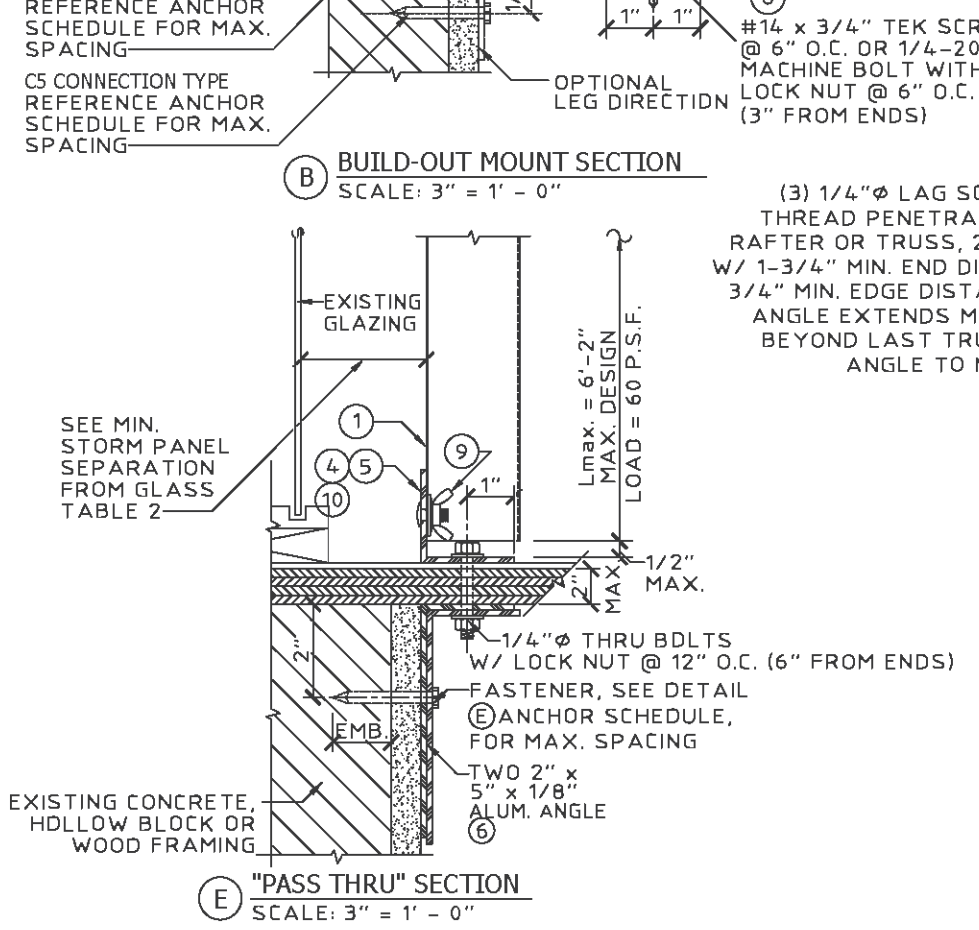
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NOTE: WING NUT SPACING SHALL BE EITHER 12" O.C. OR 6" O.C. DEPENDING ON TRACK TYPE. SEE SHEET 1 FOR TRACK TYPES WITH 6" O.C. SPACING

DETAIL (E) ("PASS THRU" SEC.) ANCHOR SCHEDULE

FASTENER TYPE	CONC.	BLOCK	WOOD
1/4" ϕ ITW TAPCON WITH 1-3/4" MIN. EMBEDMENT AND 2-1/2" MINIMUM EDGE DISTANCE	12"	4"	N/A
1/4" ϕ DEWALT ULTRACON W/ 1-1/2" MIN. EMBED. IN CONC. OR 1-1/4" EMBED. IN BLOCK AND 2" MIN. EDGE DISTANCE	7"	4"	N/A
1/4" ϕ ITW MAXI SET TAPCON WITH 1-1/4" MIN. EMBEDMENT AND 2" MINIMUM EDGE DISTANCE	5"	3"	N/A
1/4" ϕ x MIN. 2-1/2" LONG WOOD LAG SCREW WITH MIN. 1-3/4" EMBED. SHEAR PARALLEL OR PERP. TO WOOD GRAIN	N/A	N/A	12"



LMAX	DESIGN LOAD
8' - 4"	50 PSF
7' - 0"	60 PSF
6' - 0"	70 PSF



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1970 NE 153RD ST. BAY 6
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0.050" ALUMINUM STORM PANELS (VERSION 2)
FOR USE WITHIN AND OUTSIDE THE HVHZ
FL29637.1

DRWN	CHKD	DATE
RWN	FLB	07/20/19
CCB	RWN	9/26/20

REMARKS
INIT ISSUE
2020 FBC

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20-31020
SCALE: N.T.S./U.N.O.

ANCHOR SCHEDULES:

HOST STRUCT.	ANCHOR	LOAD (psf)	4" MIN. EDGE DISTANCE																
			Spans Up To 4'-0"					Spans Up To 8'-0"					Spans Up To 12'-0"						
			CONN TYPE					CONN TYPE					CONN TYPE						
			C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5		
GROUT-FILLED CONCRETE BLOCK	5/16" ITW C.S. TAPCON XL WITH 1-3/4" EMBED.	45	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	15.8"	16.0"	12.0"	13.4"	
		55	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	11.6"	16.0"	9.6"	9.2"
		66	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	12.3"	14.1"	14.8"	9.0"	14.8"	7.8"	6.8"
		85	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	11.1"	16.0"	9.3"	8.7"	11.5"	6.5"	11.0"	6.0"		
		120	16.0"	16.0"	16.0"	13.7"	16.0"	12.2"	7.0"	12.1"	6.4"	5.1"	8.1"			6.8"			
	5/16" ITW C.S. TAPCON XL WITH 2-1/4" EMBED.	45	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	
		55	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	14.5"	16.0"	
		66	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	11.9"	13.2"	
		85	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	14.0"	16.0"	16.0"	16.0"	12.5"	16.0"	9.1"	9.1"
		120	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	13.5"	16.0"	9.7"	9.9"	15.7"	8.3"	13.2"	6.4"	5.8"		
1/4" DEWALT ULTRACON W/ 2-1/4" MIN. EMBED	45	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	10.4"	16.0"	16.0"	13.3"	16.0"	6.6"	11.3"		
	55	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	8.3"	16.0"	14.9"	9.8"	14.9"	5.3"	7.7"		
	66	16.0"	16.0"	16.0"	14.1"	16.0"	16.0"	13.8"	16.0"	6.8"	11.9"	12.4"	7.6"	12.4"			5.7"		
	85	16.0"	16.0"	16.0"	11.0"	16.0"	14.5"	9.4"	14.5"	5.2"	7.4"	9.6"	5.5"	9.3"					
	120	16.0"	16.0"	16.0"	7.5"	14.7"	10.3"	5.9"	10.2"			6.8"		5.7"					

HOST STRUCT.	ANCHOR	LOAD (psf)	3/4" MIN. EDGE DISTANCE															
			Spans Up To 4'-0"					Spans Up To 8'-0"					Spans Up To 12'-0"					
			CONN TYPE					CONN TYPE					CONN TYPE					
			C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	
WOOD (G=0.55 MIN.)	1/4" LAG SCREW WITH 1-7/8" THREAD PENETRATION	45	16.0"	16.0"	16.0"	14.7"	16.0"	16.0"	16.0"	16.0"	7.3"	16.0"	16.0"	16.0"	16.0"	16.0"	4.8"	15.4"
		55	16.0"	16.0"	16.0"	12.0"	16.0"	16.0"	16.0"	16.0"	5.9"	16.0"	16.0"	13.3"	16.0"	3.9"	10.5"	
		66	16.0"	16.0"	16.0"	10.0"	16.0"	16.0"	16.0"	16.0"	4.9"	16.0"	16.0"	10.3"	16.0"	3.2"	7.8"	
		85	16.0"	16.0"	16.0"	7.8"	16.0"	16.0"	12.8"	16.0"	3.8"	10.0"	13.1"	7.4"	12.6"	2.5"	5.4"	
		120	16.0"	16.0"	16.0"	5.4"	16.0"	14.0"	8.0"	13.8"	2.6"	5.9"	9.3"	4.9"	7.8"		3.4"	
	1/4" ITW C.S. A.T.T. TAPCON WITH 1-3/4" THREAD PENETRATION	45	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	8.8"	16.0"	16.0"	16.0"	16.0"	5.7"	14.3"	
		55	16.0"	16.0"	16.0"	14.3"	16.0"	16.0"	16.0"	16.0"	7.0"	16.0"	16.0"	12.4"	16.0"	4.6"	9.8"	
		66	16.0"	16.0"	16.0"	11.9"	16.0"	16.0"	16.0"	16.0"	5.8"	15.0"	15.7"	9.6"	15.7"	3.8"	7.2"	
		85	16.0"	16.0"	16.0"	9.3"	16.0"	16.0"	11.8"	16.0"	4.4"	9.3"	12.2"	6.9"	11.7"	2.9"	5.0"	
		120	16.0"	16.0"	16.0"	6.4"	16.0"	12.9"	7.4"	12.8"	3.1"	5.5"	8.6"	4.5"	7.2"	2.1"	3.2"	
	1/4" DEWALT PANELMATE (MALE OR FEMALE) WITH 1-7/8" THREAD PENETRATION	45	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	13.4"	16.0"	16.0"	16.0"	16.0"	8.6"	16.0"	
		55	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	10.7"	16.0"	16.0"	15.7"	16.0"	6.9"	12.4"	
		66	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	8.8"	16.0"	16.0"	12.2"	16.0"	5.7"	9.2"	
		85	16.0"	16.0"	16.0"	14.1"	16.0"	16.0"	15.1"	16.0"	6.7"	11.8"	15.5"	8.8"	14.9"	4.4"	6.4"	
		120	16.0"	16.0"	16.0"	9.8"	16.0"	16.0"	9.5"	16.0"	4.7"	6.9"	11.0"	5.8"	9.2"	3.1"	4.1"	
	1/4" ALL POINTS BRASS WOOD BUSHING WITH 5/8" THREAD PENETRATION	45	16.0"	16.0"	16.0"	15.4"	16.0"	15.4"	15.4"	15.4"	7.7"	15.4"	10.3"	7.5"	10.3"	4.9"	6.4"	
		55	16.0"	16.0"	16.0"	12.6"	16.0"	12.6"	10.7"	12.6"	6.1"	10.4"	8.4"	5.5"	8.4"	3.9"	4.4"	
		66	16.0"	16.0"	16.0"	10.5"	16.0"	10.5"	7.8"	10.5"	5.0"	6.7"	7.0"	4.3"	7.0"	3.2"	3.2"	
		85	16.0"	16.0"	16.0"	8.2"	16.0"	8.2"	5.3"	8.2"	3.8"	4.1"	5.4"	3.1"	5.2"	2.4"	2.2"	
		120	11.6"	9.2"	11.6"	5.5"	8.3"	5.8"	3.3"	5.7"	2.6"	2.4"	3.9"	2.0"	3.2"			

ANCHOR NOTES:

- INSTALLATIONS SHALL NOT EXCEED THE MAXIMUM ALLOWABLE STRESS DESIGN (ASD) DESIGN RATINGS AND MAXIMUM SPAN LIMITS. ULTIMATE DESIGN WIND LOADS DETERMINED BY THE FBC AND ASCE 7 SHALL BE REDUCED TO ASD BY MULTIPLYING BY 0.6 (SEE FBC SECTION 1609).
- ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS.
- MANUFACTURER RATED EQUIVALENTS OF THE ANCHORS SPECIFIED IN THE TABLES ARE PERMITTED.
- WHERE ANCHORS FASTEN TO NARROW FACE OF STUD FRAMING, ANCHOR SHALL BE LOCATED IN CENTER OF NOMINAL 2x (MIN) WOOD STUD (i.e. 3/4" EDGE DISTANCE IS ACCEPTABLE FOR ANCHORS TO WOOD FRAMING). 1" MIN. END DISTANCE IS REQUIRED FOR ALL WOOD INSTALLATIONS.
- ALL CONCRETE ANCHORS SHALL BE INSTALLED TO NON-CRACKED CONCRETE ONLY.
- EMBELEMENT AND MINIMUM EDGE DISTANCE SHALL BE AS NOTED IN ANCHOR SCHEDULE. EMBELEMENT AND MINIMUM EDGE DISTANCE EXCLUDES STUCCO, FOAM, BRICK, AND OTHER WALL FINISHES.
- ANCHOR SCHEDULE APPLIES TO ALL PRODUCTS CERTIFIED HEREIN, BUT ONLY PROVIDES MAXIMUM ALLOWABLE ANCHOR SPACING. MAXIMUM ALLOWABLE SPANS AND PRESSURES INDICATED IN SPAN SCHEDULE(S) SHALL APPLY.
- WHERE EXISTING STRUCTURE IS WOOD FRAMING, EXISTING CONDITIONS MAY VARY. FIELD VERIFY THAT FASTENERS ARE INTO ADEQUATE WOOD FRAMING MEMBERS, NOT INTO PLYWOOD.
- MACHINE SCREWS SHALL HAVE MINIMUM OF 1/2" ENGAGEMENT OF THREADS IN BASE ANCHOR AND MAY HAVE EITHER A PAN HEAD, TRUSS HEAD, OR WAFER HEAD ("SIDEWALK BOLT") U.N.O.
- DESIGNATES ANCHOR CONDITIONS WHICH ARE NOT ACCEPTABLE FOR USE.
- * DESIGNATES ANCHORS WHICH ARE REMOVABLE AND MAY BE USED FOR DIRECT MOUNT INSTALLATIONS.
- WHEN ANCHORING TO HOLLOW BLOCK, SDS DRILLS SHOULD NOT BE USED TO DRILL INTO HOLLOW BLOCK, NOR SHOULD IMPACT DRILLS BE USED TO INSTALL CONCRETE SCREWS TO HOLLOW BLOCK.
- FOR DIRECT PANEL ATTACHMENTS (C1 AND C2) ROUND DOWN TO EITHER 12" O.C OR 6" O.C (FOR EXAMPLE: IF ANCHOR SCHEDULE SAYS 16" O.C., USE 12" O.C.; IF ANCHOR SCHEDULE SAYS 8" O.C., USE 6" O.C.; IF ANCHOR SCHEDULE SPACING IS LESS THAN 6" O.C., ANCHOR IS NOT APPLICABLE)
- ANCHORS BY THE HILLMAN GROUP MAY BE SUBSTITUTED FOR APPLICABLE ANCHORS HEREIN IF CERTIFIED SEPARATELY BY PROFESSIONAL ENGINEER.

TABLE 1:

PANEL SPAN	ALLOWABLE DESIGN PRESSURE (PSF)
144.0 in	+/-25.0
138.0 in	+/-32.5
132.0 in	+/-40.0
126.0 in	+/-47.5
120.0 in	+/-55.0
114.0 in	+/-62.5
108.0 in	+/-70.0
102.0 in	+/-77.5
96.0 in	+/-85.0
90.0 in	+/-95.0
84.0 in	+/-105.0
78.0 in	+/-115.0
72.0 in	+/-125.0
66.0 in	+/-135.0
60.0 in	+/-145.0
54.0 in	+/-155.0
48.0 in	+/-165.0

TABLE 1 NOTES:

- INSTALLATIONS SHALL NOT EXCEED THE MAXIMUM ALLOWABLE STRESS DESIGN (ASD) DESIGN RATINGS AND MAXIMUM SPAN LIMITS. ULTIMATE DESIGN WIND LOADS DETERMINED BY THE FBC AND ASCE 7 SHALL BE REDUCED TO ASD BY MULTIPLYING BY 0.6 (SEE FBC SECTION 1609).
- LINEAR INTERPOLATION BETWEEN SHUTTER SPANS IS NOT PERMITTED. FOR SPANS BETWEEN THOSE INDICATED ABOVE, THE DESIGN PRESSURES FOR THE NEXT HIGHER SPAN SHALL BE USED.
- DESIGN PRESSURES NOTED IN TABLE 1 APPLY TO ALL MOUNTING AND ANCHORAGE CONDITIONS AND SHALL NOT BE EXCEEDED.

TABLE 2:

PANEL SPAN	MINIMUM STORM PANEL SEPARATION FROM GLASS (HVHZ & WIND ZONE 4)	
	INSTALLATIONS LESS THAN 30' ABOVE GRADE (SEE NOTE 1)	INSTALLATIONS GREATER THAN 30' ABOVE GRADE
144.0 in	3.75 in	2.36 in
138.0 in	3.66 in	2.28 in
132.0 in	3.56 in	2.20 in
126.0 in	3.47 in	2.12 in
120.0 in	3.38 in	2.03 in
114.0 in	3.28 in	1.95 in
108.0 in	3.19 in	1.87 in
102.0 in	3.09 in	1.79 in
96.0 in	3.00 in	1.71 in
90.0 in	2.91 in	1.55 in
84.0 in	2.81 in	1.39 in
78.0 in	2.72 in	1.24 in
72.0 in	2.63 in	1.08 in
66.0 in	2.53 in	0.93 in
60.0 in	2.44 in	0.77 in
54.0 in	2.34 in	0.61 in
48.0 in	2.25 in	0.46 in

TABLE 2 NOTES:

- INSTALLATIONS USING "BUILD-DUT F-TRACKS" (COMPONENT #7, SEE DETAIL 'F') SHALL HAVE A MINIMUM OF 6.5" GLASS SEPARATION FOR ALL SPAN/PRESSURE COMBINATIONS.
- INSTALLATIONS SHALL NOT EXCEED THE MAXIMUM ALLOWABLE STRESS DESIGN (ASD) DESIGN RATINGS AND MAXIMUM SPAN LIMITS. ULTIMATE DESIGN WIND LOADS DETERMINED BY THE FBC AND ASCE 7 SHALL BE REDUCED TO ASD BY MULTIPLYING BY 0.6 (SEE FBC SECTION 1609).
- ENTER TABLE 2 WITH POSITIVE LOAD TO DETERMINE MIN. STORM SHUTTER SEPARATION FROM GLASS.
- THESE STORM PANELS ARE NOT APPROVED FOR INSTALLATION IN ESSENTIAL FACILITIES AS DEFINED IN ASCE 7.

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ATLANTIC SHUTTERS, INC.
1970 NE 153RD ST. BAY 6
NORTH MIAMI BEACH, FL 33162
PHONE: (305) 945-7277 FAX: (305) 945-1131
0.050" ALUMINUM STORM PANELS (VERSION 2)
FOR USE WITHIN AND OUTSIDE THE HVHZ
FL29637.1

DRWN	CHKD	DATE
FRN	FLB	07/20/19
CCB	RWN	02/26/20

REMARKS
INITIALS
2020 FBC

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20-31020
SCALE: N.T.S. U.N.O.





ENGINEERING EXPRESS® PRODUCT EVALUATION REPORT

September 28, 2020

Application Number: FL29637.1-R1
EX Project Number: 20-31020

Product Manufacturer: Atlantic Shutters, Inc.
Manufacturer Address: 1970 NE 153rd St., Bay 6
North Miami Beach, FL 33162

Product Name & Description: 0.050" Aluminum Storm Panels (Version 2)
HVHZ and Non-HVHZ Compliant

Scope of Evaluation:

This Product Evaluation Report is being issued in accordance with the requirements of the Florida Department of Business and Professional Regulation (Florida Building Commission) Rule Chapter 61G20-3.005, F.A.C., for statewide acceptance per Method 1(d). The product noted above has been tested and/or evaluated as summarized herein to show compliance with the Florida Building Code Seventh Edition (2020) and is, for the purpose intended, at least equivalent to that required by the Code. Re-evaluation of this product shall be required following pertinent Florida Building Code modifications or revisions.

Substantiating Data:

- **PRODUCT EVALUATION DOCUMENTS**

EX drawing #20-31020 titled "0.050" Aluminum Storm Panels (Version 2)", sheets 1-5, prepared by Engineering Express, signed & sealed by Frank Bennardo, PE is an integral part of this Evaluation Report.

- **TEST REPORTS**

Uniform static structural performance has been tested in accordance with TAS 202 test standards per test report #19-8773 (signed by Idalmis Ortega, PE) by Fenestration Testing Laboratory, Inc.

Large missile impact resistance and cyclic loading performance have been tested in accordance with TAS 201 and TAS 203 per test report #19-8773 (signed by Idalmis Ortega, PE) by Fenestration Testing Laboratory, Inc.

- **STRUCTURAL ENGINEERING CALCULATIONS**

Structural engineering calculations have been prepared which evaluate the product based on comparative and/or rational analysis to qualify the following design criteria:

1. Maximum Allowable Spans
2. Anchor Spacing
3. Maximum Allowable Size/Pressure Combinations
4. Anchor Capacity

No 33% increase in allowable stress has been used in the design of this product.

Atlantic Shutters, Inc. — 0.050” Aluminum Storm Panels (Version 2)

Impact Resistance:

Large Missile Impact Resistance has been demonstrated as evidenced in previously listed test reports, and is accounted for in the engineering design of this product.

Wind Load Resistance

This product has been designed to resist wind loads as indicated in the span schedule(s) on the Product Evaluation Document (i.e. engineering drawing).

Installation

The product listed above shall be installed in strict compliance with the Product Evaluation Document (i.e. engineering drawing), along with all components noted therein.

The product components shall be of the material specified in the Product Evaluation Document (i.e. engineering drawing).

Limitations & Conditions of Use:

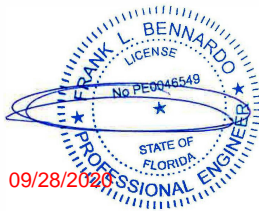
Use of this product shall be in strict accordance with the Product Evaluation Document (i.e. engineering drawing) as noted herein.

All supporting host structures shall be designed to resist all superimposed loads and shall be of a material listed in this product’s respective anchor schedule. Host structure conditions which are not accounted for in this product’s respective anchor schedule shall be designed for on a site-specific basis by a registered professional engineer.

All components which are permanently installed shall be protected against corrosion, contamination, and other such damage at all times.

This product has been designed for use within and outside the High Velocity Hurricane Zone (HVHZ).

Respectfully,



Frank Bennardo, PE
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